

Claims

## WHAT IS CLAIMED IS:

1. In a computing system having a user interface, a user input device for inputting information into a computing system, the user input device comprising:

5 a tactile surface divided by a plurality of sections, each section being tactilely distinguished from an adjacent section; and

a plurality of input sensing devices detecting an input stroke defining a user request and transmitting a selection signal indicative of the user request to the computing system, each section having at least one input sensing device whereby information is input into a computing system in response to reception of the selection signal.

2. The user input device according to claim 1 wherein each input sensing device is associated with an information element each information element being associated with a task to be performed in the computing system.

3. The user input device according to claim 2 wherein the task to be performed is text input into an application installed on the computing system.

4. The user input device according to claim 2 wherein the task to be performed activates an application installed on the computing system.

5. The user input device according to claim 4 wherein the application activated is from a group consisting of a desktop environment, an operating system, and an application program.

6. The user input device according to claim 2 wherein the task to be performed is a control operation of an application.

7. The user input device according to claim 6 wherein the application is from a group consisting of a desktop environment, an operating system, and an application program.

8. The user input device according to claim 2 wherein:

at least one input sensing device is associated with an application selection information element associated with the task of activating an application installed on the computing system;

5 at least one input sensing device is associated with an application operation information element associated with the task of providing control over operation of an application installed on the computing system; and

at least one input sensing device is associated with a text input information element associated with the task of textual and character input into an application installed on the computing system.

10 9. The user input device according to claim 1 wherein the plurality of sections comprises:

a central portion forming a single section; and

15 a petals portion having a plurality of petals angularly dividing the tactile surface between the central portion to an outer circumferential portion of the tactile surface, each petal forming a single section; and

the outer circumferential portion forming a single section whereby the input stroke contacts at least one section to request performance of a particular task.

20 10. The user input device according to claim 9 wherein the central portion further comprises:

a raised reference point tactilely identifying the central portion.

11. The input device according to claim 1 wherein the tactile surface is a touchpad having a tactile pattern providing orientation feedback to a user selecting a specific user request.

25 12. The input device according to claim 11 wherein each input sensing device is a button detecting the input stroke.

13. In a computing system having a user interface, the user interface having a user interface selection device for inputting control and text commands into the computing system, the user interface selection device comprising:

a tactile touchpad having a tactile pattern providing orientation feedback to a user selecting a specific user request, the touchpad angularly divided by a plurality of petals, each petal being tactilely distinguished from an adjacent petal and forming a single section;

a central portion separating the center of the tactile touchpad from the plurality of petals, the central portion being tactilely distinguished from the plurality of petals and forming a single section;

an outer portion separating an outer boundary of the tactile touchpad from the plurality of petals, the outer portion being tactilely distinguished from the plurality of petals and forming a single section; and

a plurality of input sensing devices, each section having at least one input sensing device detecting all or a portion of an input stroke defining a control or text command and transmitting a selection signal indicative of the control or text command to the computing system.

14. The user interface selection device according to claim 13 wherein at least one text command is selected with an out-return stroke beginning on the central portion, continuing to at least one petal, and terminating in the central portion, the out-return stroke requesting textual input to the computing system.

15. The user interface selection device according to claim 13 wherein at least one control command is selected with a drag-out stroke beginning on the central portion, continuing to a petal, and terminating on the petal, the drag-out stroke requesting selection of a control operation on the computing system.

16. The user interface selection device according to claim 13 wherein at least one control command is selected with a dial stroke beginning on a petal, continuing to at least one other petal, and terminating on the other petal, the dial stroke requesting rotation of a menu item control command so that the sections of the touchpad are generated updated control commands defined by the menu item control command.

17. The user interface selection device according to claim **13** wherein at least one control command is selected with a drag-in stroke beginning on a petal, continuing to the central portion, and terminating on the central portion, the drag-in stroke requesting selection of a control operation  
5 on the computing system.

18. The user interface selection device according to claim **13** wherein at least one control command is selected with a press stroke beginning and terminating on a petal, the press stroke requesting activation of an application installed on the computing system.

19. The user interface selection device according to claim **13** wherein the control command selected is associated with the outer circumferential portion, the control command requesting cancellation of the performance of the command identified by the input stroke.

20. In a computing system having a user interface, the user interface having a user input device having a tactile surface, a method for inputting control and text commands into the computing system, the method comprising:

5        locating a plurality of input sensing devices on a plurality of sections of the tactile surface, each section tactilely distinguished from an adjacent section thereby providing orientation feedback to a user selecting at least one input sensing device associated with a specific user request;

      initializing the plurality of input sensing devices such that each input sensing device is associated with a task to be performed in the computing system;

10       detecting an input stroke contacting at least one of the plurality of input sensing devices, the input stroke requesting performance of the task by the user; and

      in response to the detecting act, transmitting a selection signal to the computing system whereby a command is input into the computing system.

15       21. The method according to claim **20** wherein the transmitting act comprises:

      sending a selection signal requesting the computing system to perform the task of text and character input into an application.

22. The method according to claim **20** wherein the transmitting act comprises:

20       sending a selection signal requesting the computing system to perform the task of selecting an application to activate on the user interface.

23. The method according to claim **20** wherein the transmitting act comprises:

25       sending a selection signal requesting the computing system to perform the task of controlling an operation of an application.

24. The method according to claim **20** wherein the method for inputting control and text commands into a computing system further comprises:

30       generating a text selection signal requesting text and character information input into an application running on the computing system;

generating an application selection signal requesting activation of an application on the user interface; and

generating an application operation selection signal requesting control over operations of an application.

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25. The method according to claim **20** wherein the detecting act comprises:

sensing contact with a sensor, wherein the transmitting act is implemented when the sensor is physically selected on the tactile surface.

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26. The method according to claim **20** wherein the detecting act comprises:

sensing contact with a button, wherein the transmitting act is implemented when the button is depressed.

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27. The method according to claim **20** wherein the initializing act comprises:

associating each input sensing device to one of a plurality of information elements, each information element being associated with a task to be performed by the computing system.

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28. The method according to claim **27** wherein the act of associating comprises:

linking at least one input sensing device on a central portion of the tactile surface with an information element, the central portion being one of the plurality of sections; and

linking at least one input sensing device on each of a plurality of petals angularly dividing the tactile surface with an information element, each petal being one of the plurality of sections.

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29. The method according to claim **28** wherein the act of transmitting comprises:

conveying a text selection signal requesting the computing system to enter a text-operating mode if the detecting act detects that the input stroke begins on the central portion.

30. The method according to claim **28** wherein the act of transmitting comprises:

conveying a control selection signal requesting the computing system to enter a control-operating mode if the detecting act detects that the input stroke begins on one of the plurality of petals.

5 31. The method according to claim **30** wherein the act of conveying comprises:

requesting the computing system to activate an application on the user interface if the initial selection on one of the plurality of petals is the only selection of an input sensing device included in the input stroke.

10 32. The method according to claim **30** wherein the act of conveying comprises:

requesting the computing system to perform an operation in an application if the initial selection on one of the plurality of petals is a beginning selection point of the input stroke continuing from the petal directly to the central portion.

15 33. The method according to claim **29** wherein the act of conveying comprises:

requesting the computing system to input a textual character in an application if the central portion is a beginning selection point of the input stroke continuing through at least one of the plurality petals and returning directly to the central portion.

20 34. The method according to claim **28** wherein the act of associating further comprises:

linking at least one input sensing device on an outer circumferential portion of the tactile surface with an information element, the outer circumferential portion being one of the plurality of sections.

25 35. The method according to claim **34** wherein the method for inputting control and text commands into a computing system further comprises:

following detection of the input stroke on the outer circumferential portion, conveying a cancel selection signal requesting the computing system to cancel the user request associated with the command.